

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A semiconductor device comprising:

a) a semiconductor layer that is provided over an insulator layer that is provided over a support substrate layer, said insulator layer having lower thermal conductivity than the semiconductor layer;

b) a plurality of bipolar transistors that are provided on the semiconductor layer such that collectors, emitters and bases of the bipolar transistors are respectively connected in parallel with each other; and

c) an isolation that is provided over a main surface of the semiconductor layer and that is constructed to have a depth that does not ~~to~~ reach through to the insulator layer and also does not reach the support substrate layer;

wherein ~~at least one~~ one of a portion and a whole of the plurality of bipolar transistors are surrounded by the insulator layer, ~~and the isolation, and an oxide film disposed within the isolation so as to not reach the support substrate layer, and~~

wherein the surrounded portion or whole of the plurality of transistors operates substantially uniformly as constituent elements of a unit transistor.

2. (Previously Presented) The semiconductor device according to claim 1, wherein resistors are electrically connected to the emitters of the plurality of bipolar transistors, respectively.

3. (Original) The semiconductor device according to claim 2, wherein each resistor is comprised of polycrystalline silicon.

4. (Previously Presented) The semiconductor device according to claim 1, wherein a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent bipolar transistors is a minimum distance between the transistors.

5. (Previously Presented) The semiconductor device according to claim 1, wherein a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent bipolar transistors is 1 μm or more.

6. (Currently Amended) A semiconductor device comprising:

a) a semiconductor layer that is provided over an insulator layer that is provided over a support substrate layer, said insulator layer having lower thermal conductivity than the semiconductor layer;

b) a plurality of bipolar transistors that are provided on the semiconductor layer such that collectors, emitters and bases of the bipolar transistors are respectively connected in parallel with each other;

c) resistors which are electrically connected to corresponding ones of the plurality of bipolar transistors; and

d) an isolation that is provided over the main surface of the semiconductor layer and that is constructed to have a depth that does not reach through to the insulator layer and also does not reach the support substrate layer;

wherein at least one of a portion and a whole of the plurality of bipolar transistors are surrounded by the insulator layer, and the isolation, and an oxide film disposed within the isolation so as to not reach the support substrate layer, and

wherein the surrounded portion or whole of the plurality of transistors operates substantially uniformly as constituent elements of a unit transistor.

7. (Original) The semiconductor device according to claim 6, wherein

each resistor is comprised of polycrystalline silicon.

8. (Previously Presented) The semiconductor device according to claim 6, wherein

a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent bipolar transistors is a minimum distance between the transistors.

9. (Previously Presented) The semiconductor device according to claim 6, wherein

a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent bipolar transistors is 1 μm or more.

10. (Currently Amended) A semiconductor device comprising:

a) a semiconductor layer that is provided over an insulator layer that is provided over a support substrate

layer, said insulator layer having lower thermal
conductivity than the semiconductor layer;

b) a plurality of first bipolar transistors that are provided in a first region over a portion of the semiconductor layer such that collectors of the first bipolar transistors are connected in parallel with each other, emitters of the first bipolar transistors are connected in parallel with each other, and bases of the first bipolar transistors are connected in parallel with each other;

c) a first isolation provided over the main surface of the semiconductor layer and that is constructed to have a depth that does not ~~to~~ reach through to the insulator layer and also does not reach the support substrate layer;

d) a plurality of second bipolar transistors that are provided in a second region over a portion of the semiconductor layer such that collectors of the second bipolar transistors are connected in parallel with each other, emitters of the second bipolar transistors are connected in parallel with each other, and bases of the second bipolar transistors are connected in parallel with each other; and

e) a second isolation that is provided over the main surface of the semiconductor layer that is constructed to

have a depth that does not ~~to~~ reach through the insulator layer and also does not reach the support substrate layer;

wherein at least one of a portion and a whole of the plurality of first bipolar transistors are surrounded by the insulator layer, and the first isolation in the first region, and an oxide film disposed within the first isolation so as to not reach the support substrate layer,

wherein the surrounded portion or whole of the plurality of first transistors operates substantially uniformly as constituent elements of a first unit transistor.

wherein at least one of a portion and a whole of the plurality of second bipolar transistors are surrounded by the insulator layer, and the second isolation in the second region, and an oxide film disposed within the second isolation so as to not reach the support substrate layer,
and

wherein the surrounded portion or whole of the plurality of second transistors operates substantially uniformly as constituent elements of a second unit transistor.

11. (Previously Presented) The semiconductor device according to claim 10, wherein

resistors are electrically connected to the emitters of the plurality of the first and second bipolar transistors, respectively.

12. (Original) The semiconductor device according to claim 11, wherein

each resistor is comprised of polycrystalline silicon.

13. (Previously Presented) The semiconductor device according to claim 10, wherein

a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent first bipolar transistors is a minimum distance between the transistors.

14. (Previously Presented) The semiconductor device according to claim 10, wherein

a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent bipolar transistors is 1 μm or more.

15. (Previously Presented) The semiconductor device according to claim 10, wherein

a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent first bipolar transistors is equal to a distance between a contact hole for a base and a contact hole for a collector of mutually adjacent second bipolar transistors.

16. (Original) The semiconductor device according to claim 10, wherein

an optimum current value of the first bipolar transistor is larger than an optimum current value of the second bipolar transistor.

17. (Original) The semiconductor device according to claim 16, wherein

a permissible maximum current value of the first bipolar transistor is larger than a permissible maximum current value of the second bipolar transistor by 1.5 times or more.

18. (Original) The semiconductor device according to claim 10, wherein

the first bipolar transistor constitutes a circuit that requires a heat radiation characteristic that is larger than a heat radiation characteristic of the second bipolar

transistor, and the second bipolar transistor constitutes a circuit that requires a higher speed than that of the first bipolar transistor.